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REMARKS

This Amendment is in response to the Office Action mailed on October 21, 2005 in which claims 1-14 were rejected. With this Amendment, claims 1, 4, 6, 7, 9, 12 and 14 are amended. Claims 3 and 11 are canceled. New claims 15-17 are added.

ALLOWABLE SUBJECT MATTER

In sections 10 and 11 of the Office Action, claims 3-7 and 11-14 were objected to as being dependent upon a rejected base claim, but indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The Examiner's indication of allowable subject matter is appreciated. With this Amendment, independent claims 1 and 9 are amended to include the limitations of objected to claims 3 and 11, respectively. These claims are also amended to overcome the rejections under 35 U.S.C. § 112 set forth elsewhere in the Office Action.

While independent claims 1 and 9 are amended to incorporate subject matter stated to be allowable by the Examiner, it is respectfully submitted that the limitations of independent claim 1 as originally filed, when rewritten to overcome the rejections under 35 U.S.C. § 112, provide a basis for allowance. Therefore, new claims 15-17 are also added with this Amendment. New claim 15 includes limitations from original claim 1, with appropriate changes to overcome the corresponding rejections under 35 U.S.C. § 112. Arguments in support of the allowability of new claims 15-17 are presented below.

CLAIM OBJECTIONS

In section 3 of the Office Action, it was noted that the originally filed application included a misnumbered claim 17, which was renumbered by the Examiner as claim 14. The Examiner's help in identifying this typographical error is appreciated.

In section 4 of the Office Action, claims 6, 7 and 14 were objected to. The stated basis for objection to claim 6 was that it contained an informality of reciting "new data cache parameters" without first claiming "data cache parameters". With this Amendment, this informality is corrected

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by deleting the word "new" from claim 6. Claim 7 was objected to based on its further limitation of claim 6. Therefore, with this Amendment to claim 6, it is respectfully requested that the objections to claims 6 and 7 be withdrawn. The stated basis for objection to claim 14 was that is contained an informality such that it was unclear how the "new data cache parameters" became "new" from the original "data cache parameters". With this Amendment, this informality is corrected by deleting the word "new", and replacing it with the word "the". Therefore, it is respectfully requested that the objection to claim 14 be withdrawn.

CLAIM REJECTIONS UNDER 35 U.S.C. § 112

It section 5 of the Office Action, claims 1 and 9 were rejected under 35 U.S.C. § 112. The stated basis of the rejection was that these claims recited the limitation of "reallocating", without previously setting forth "allocating". The Office Action further stated that the claims were treated on their merits by replacing "reallocating" with "allocating". With this Amendment, each of independent clams 1 and 9 is amended to recite a buffer random access memory having a first portion allocated for a defects table and a second portion allocated for data caching. This is believed to provide sufficient antecedent basis for the limitation of "reallocating". It is therefore respectfully requested that the rejections of claims 1 and 9 under 35 U.S.C. § 112 be withdrawn. These claims should therefore be considered on their merits based upon their inclusion of the limitation "reallocating".

CLAIM REJECTIONS UNDER 35 U.S.C. §§ 102 AND 103

In section 6 of the Office Action, claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by Tsuchimoto et al (hereafter Tsuchimoto), U.S. Patent No. 6,336,202 B1. As noted above, new independent claim 15 includes the limitations of originally filed independent claim 1, rewritten to overcome the rejections under 35 U.S.C. § 112. Therefore, claims 15-17 are presented in view of the previous rejection of claim 1. New independent claim 15 and dependent claims 16 and 17 are believed to be allowable over Tsuchimoto and the other cited references, for at least the reasons set forth below.

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New claim 15 recites a method of managing a buffer random access memory having a first portion allocated for a defect table and a second portion allocated for data caching. The method includes the step of "determining actual memory space of the first portion of the buffer random access memory which is actually occupied by the defect table in order to identify unused memory space of the first portion." The method then includes the step of "reallocating the unused memory space of the first portion of the buffer random access memory for use in data caching." It is respectfully submitted that Tsuchimoto fail to teach or suggest either of these claim limitations.

Originally interpreting the term "reallocating" in claim 1 as meaning "allocating", the Office Action stated that the limitation of "determining actual memory space of the first portion of the buffer random access memory which is actually occupied by the defect table in order to identify unused memory space of the first portion" is met by Tsuchimoto. The stated reasoning for this interpretation of Tsuchimoto was that, in order for the system to work, the controller illustrated in FIG. 1 of Tsuchimoto must inherently make a determination as to which data or area in the RAM is the defect table and which area of the RAM is for data caching. However, when interpreted in light of the language used in the preamble, this limitation requires more than to have a controller make a determination as to which area of RAM is allocated for the defect table and which area of the RAM is allocated for data caching. Instead, this claim limitation requires that actual memory space of the first portion of the buffer RAM (i.e., the portion allocated for the defect table) which is actually occupied by the defect table be determined in order to identify unused memory space of the first portion. In other words, this step results in the identification of unused buffer RAM in the portion of the buffer RAM which is allocated for the defect table. This limitation is neither taught nor suggested by Tsuchimoto.

Further, interpreting the term "reallocating" as meaning "allocating", the Office Action stated that the limitation of allocating the unused memory space of the first portion of the buffer random access memory for use in data caching is taught by Tsuchimoto. Tsuchimoto is stated in the Office Action to aim at minimizing the size of the defect map so that it occupies a minimal amount of RAM. However, interpreting the term "reallocating" as intended, and as supported by the introduction in the preamble of "a buffer random access memory having a first portion
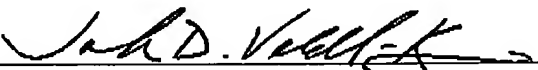
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allocated for a defect table and a second portion allocated for data caching", it is respectfully submitted that Tsuchimoto do not teach or suggest this second claim limitation either. Tsuchimoto fail to teach or suggest the limitation of "reallocating the unused memory space of the first portion of the buffer random access memory for use in data caching." In other words, Tsuchimoto fails to teach or suggest the reallocation of portions of the buffer RAM from their previous defect table allocation to a new data cache allocation. See for example, Tsuchimoto at col. 3, lines 51-57 (describing the "variable length defect map" as being fixed in size while storing variable length defects). Therefore, it is respectfully submitted that Tsuchimoto fail to teach or suggest either of these two limitations. Consequently, it is believed that new claims 15-17 are in condition for allowance. Reconsideration and allowance are respectfully requested.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to deposit account No. 23-1123.

Respectfully submitted,

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